

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BRIJ MASAND

Appeal No. 1997-0920
Application 08/274,123¹

ON BRIEF

Before BARRETT, FLEMING, and GROSS, Administrative Patent Judges.

BARRETT, Administrative Patent Judge.

¹ Application for patent filed July 12, 1994, entitled "System And Method For Identifying Matches Of Query Patterns To Document Text In A Document Textbase," which is a continuation of Application 07/926,877, filed August 7, 1992, now abandoned.

Appeal No. 1997-0920
Application 08/274,123

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 2-16.

We reverse.

BACKGROUND

The disclosed invention is directed to a text pattern matching system and method for identifying ones of a plurality of documents in a document text base which satisfy a query, as described in Appellant's Summary of Invention in the Brief (Supplemental), filed April 1, 1996 (Paper No. 19½), at page 3.

Claim 2 is reproduced below.

2. A text pattern matching system for identifying ones of a plurality of documents in a document text base which satisfy a query, each of said documents comprising a series of ordered text symbols, with each text symbol being represented by a text token, each query comprising a series of query symbols, with each query symbol being represented by a query token, said text pattern matching system comprising:

- A. a match token generator for generating a match token for each text token whose text symbol corresponds to a query token's query symbol, the match token generator associating each match token with (i) document identifier information identifying one of said documents containing the text symbol corresponding to the query symbol, (ii) text symbol

sequence information identifying the position of the text symbol in the series of text symbols which comprise the document, and (iii) query symbol sequence information identifying the position of the query symbol in the series of query symbols which comprise the query;

- B. a match token sorter for sorting match tokens generated by said match token generator according to the document identifier information and the text symbol sequence information associated therewith; and
- C. a query processor for identifying, using the query symbol sequence information associated with the match tokens as sorted by the match token sorter, sequences of match tokens relating to a query which satisfy the query, the document identifier information of match tokens in the identified sequences of match tokens identifying the documents that satisfy the query.

The Examiner relies upon the following prior art:

Kucera	4,674,066	June 16,
1987		
Dickinson et al. (Dickinson)	4,495,566	January 22,
1985		

Claims 2-6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Dickinson.

Claims 7-16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kucera and Dickinson.

We refer to the Final Rejection (Paper No. 12) (pages referred to as "FR__") and the Examiner's Answer (Paper

Appeal No. 1997-0920
Application 08/274,123

No. 21) (pages referred to as "EA__") for a statement of the Examiner's position and to the Appeal Brief (Supplemental) (Paper No. 19½) (pages referred to as "Br__") and the Response to Examiner's Reply (Paper No. 22) (pages referred to as "RBr__") for a statement of Appellant's position.

OPINION

Claims 2-6

"Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention."
RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984).

The Examiner finds the claimed "match token" to correspond to the "textual block identifiers" in Dickinson (FR2; EA5, line 10). In Dickinson, "each textual block is a paragraph within a document" (col. 7, line 68). The "textual block identifiers" identify the textual block, by document number and paragraph number, where an "equivalent entry word" is found as shown in Table 3 (col. 27). "'Equivalent words' . . . include words which are an exact match to the corresponding query word as well as those words which are

Appeal No. 1997-0920
Application 08/274,123

acceptable misspellings and inflections of the query words and those words which are synonyms of the acceptable misspellings and inflections of the query words." (Col. 9, lines 36-42.)

The claimed match token must contain the following three pieces of information: "(i) document identifier information identifying one of said documents containing the text symbol corresponding to the query symbol, (ii) text symbol sequence information identifying the position of the text symbol in the series of text symbols which comprise the document, and (iii) query symbol sequence information identifying the position of the query symbol in the series of query symbols which comprise the query." With respect to Appellant's token structure in figure 2, these correspond to (i) the match document pointer field 51, (ii) the match segment pointer field 52 and the match document segment offset pointer field 53, and (iii) for a match token, "the document segment pointer 33 and segment offset pointer 34 identify the offset into the query string or series of query symbols at which the particular query symbol represented by the query token is located" (specification, page 7, lines 2-5).

Appeal No. 1997-0920
Application 08/274,123

The textual block identifier in Dickinson has associated with it a document number (e.g., Table 3, second column; col. 8, lines 47-58) and, therefore, contains "(i) document identifier information" in a data structure (token) which is not shown.

The textual block identifier in Dickinson has associated with it information about the paragraph number in which the text symbol appears (e.g., Table 3, third column, col. 8, lines 47-58), which corresponds to Appellant's match segment pointer field 52. However, the textual block identifier does not contain information "identifying the position of the text symbol in the series of text symbols" within the paragraph; the block identifier identifies a block of text, not its precise location in the string of text symbols. The Examiner does not address all the claim limitations. Perhaps the limitation of "identifying the position of the text symbol in the series of text symbols which comprise the document" could be interpreted broadly to mean merely identifying the paragraph rather than the exact position. The Examiner has not tried to express such an interpretation. There is no way such an interpretation could hold for proximity operations

where the exact location must be known. We find that Dickinson does not disclose the claimed "ii) text symbol sequence information" but, nevertheless, address the other limitations.

The textual block identifier in Dickinson has no information associated with it that corresponds to the "(iii) query symbol sequence information." The textual block identifier just indicates the document number and paragraph number where one or more query words is found. It does not even identify what query word is found at that block; there has to be a table (Table 4) to correlate the query words (or their equivalents) to a textual block identifier. Appellant argues this limitation (Br6), but the Examiner does not respond. Thus, we further find that Dickinson does not disclose the claimed "(iii) query symbol sequence information" and does not anticipate.

The Examiner finds the claimed "match token sorter" to correspond to the sort operation in Dickinson where each textual block identifier is assigned a score depending on the number of sets of equivalent words which have at least one equivalent word in the text block.

The claimed "match token sorter" is shown at step 107 in figure 3B. The specification states (page 12, lines 18-21): "In step 107, the micro-controller enables the processing elements 13(i) to perform a sort . . . of the match tokens which were generated in step 106, the search [sic, sort] being performed according to the contents of the document pointer field 32, document segment pointer field 33 and document offset field 34." This statement appears to be in error. Presumably, this should be sorting according to the content of the match document pointer field 51, the match segment pointer field 52, and the match document segment offset pointer field 53 because: (1) this is consistent with step 107 in figure 3B and the claim language; and (2) the specification elsewhere states that fields 32 through 34 hold the query information (specification, page 8, lines 11-15) and there is no description in the specification of sorting according to query information.

Dickinson sorts based on the number of sets of equivalent words which have at least one equivalent word in the text block. The Examiner's findings regarding Dickinson (EA5-6) are accurate. However, claim 2 calls for more than just "a

Appeal No. 1997-0920
Application 08/274,123

match token sorter for sorting generated match tokens" (EA5) as stated by the Examiner. Dickinson does not sort match tokens "according to the document identifier information and the text symbol sequence information associated therewith," i.e., according to the key value of the location of the query in the document text base by document number and position. Thus, we find that Dickinson does not disclose the claimed "match token sorter for sorting match tokens generated by said match token generator according to the document identifier information and the text symbol sequence information associated therewith."

Lastly, the Examiner finds the "query processor" to correspond to the processing textual identifier blocks that determine the sets of equivalent words in the text that satisfy the query, referring to abstract, lines 1-13, and column 9, lines 50-68 (FR2) and to column 29, lines 30-46 (in claim 1 of Dickinson) (EA6). The Examiner fails to address the following underlined claim language "query processor for identifying, using the query symbol sequence information associated with the match tokens as sorted by the match token sorter, sequences of match tokens relating to a query which

Appeal No. 1997-0920
Application 08/274,123

satisfy the query." Dickinson does not have query symbol sequence information associated with the textual block identifiers as previously discussed. We find that Dickinson does not disclose the claimed "query processor."

For the reasons stated above, the Examiner has failed to establish a prima facie case of anticipation based on the express limitations of claim 2. The rejection of claims 2-6 is reversed.

Claims 7-16

Claim 7 is taken as representative of claims 7-16.

The Examiner found that Kucera discloses a memory, a processor, and a controller but does not disclose the step of sorting for which the Examiner applies Dickinson (FR3-4). Appellant argued with respect to independent claims 7, 12, and 16 that the Examiner relied on Kucera for the memory, processor, and controller and "[t]he Examiner further relied on the Dickinson patent as teaching the match token generation, sorting and query processing recited in those claims substantially as recited in claim 2" (Br6). Appellant argued that Dickinson does not disclose those operations. The

Appeal No. 1997-0920
Application 08/274,123

Examiner responded that "the appellant did not address the fact that the limitations of claim 7 are substantially disclosed by Kucera" (EA6) and that "appellant's assertions about Dickinson et al's system are unfounded" (EA6-7).

We agree with Appellant's response that "[n]o attempt was made by the Examiner to apply these elements [memory, processor, and controller in Kucera] to claims 7-16 in detail or to show that Kucera supplied any of the elements missing in Dickinson" (RBr5). Appellant's interpretation that the rejection relies on Dickinson for the query processing and relies on Kucera for the hardware is reasonable given that the Examiner has failed to set forth where the claimed query features were in Kucera.

For the reasons addressed in connection with claim 2, we find that Dickinson does not disclose the claimed "match token generator control module," "match token processing control module," or "query processing control module." Even if the Examiner were correct that Kucera disclosed everything but the step of sorting match tokens, Dickinson does not disclose sorting match tokens "according to the document identifier information and the text symbol sequence information

Appeal No. 1997-0920
Application 08/274,123

associated therewith." Therefore, the Examiner has failed to establish a prima facie case of obviousness with respect to claims 7-16. The rejection of claims 7-16 is reversed.

CONCLUSION

The rejections of claims 2-16 are reversed.

REVERSED

LEE E. BARRETT)	
Administrative	Patent Judge)
)	
)	
)	
)	BOARD OF PATENT
MICHAEL R. FLEMING)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
ANITA PELLMAN GROSS)	
Administrative Patent Judge)	

Appeal No. 1997-0920
Application 08/274,123

Richard A. Jordan
THINKING MACHINES CORPORATION
14 Crosby Drive
Bedford, MA 01730